DEPARTMENT OF TRANSPORTATION
DIVISION OF ENGINEERING SERVICES
Office of Structural Materials
Quality Assurance and Source Inspection

Bay Area Branch
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Contract #: 04-0120F4
Cty: SF/ALA Rte: 80 PM: 13.2/13.9
File #: 1.28

WELDING INSPECTION REPORT

Resident Engineer: Pursell, Gary
Address: 333 Burma Road
City: Oakland, CA 94607

Report No: WIR-014781
Date Inspected: 16-Jun-2010

Project Name: SAS Superstructure
Prime Contractor: American Bridge/Fluor Enterprises, a JV
Contractor: American Bridge/Fluor Enterprises, a JV

OSM Arrival Time: 1100
OSM Departure Time: 1930
Location: Job Site

CWI Name: See Below

Inspected CWI report:	☐ Yes	☑ No	☐ N/A	**CWI Present:**	☑ Yes	☐ No	
Electrode to specification:	☑ Yes	☐ No	☐ N/A	**Rod Oven in Use:**	☑ Yes	☐ No	☐ N/A
Qualified Welders:	☑ Yes	☐ No	☐ N/A	**Weld Procedures Followed:**	☑ Yes	☐ No	☐ N/A
Approved Drawings:	☑ Yes	☐ No	☐ N/A	**Verified Joint Fit-up:**	☑ Yes	☐ No	☐ N/A
				Approved WPS:	☑ Yes	☐ No	☐ N/A
				Delayed / Cancelled:	☐ Yes	☑ No	☐ N/A

Bridge No: 34-0006
Component: Orthotropic Box Girders

Summary of Items Observed:

At the start of the shift the Quality Assurance Inspector (QAI) traveled to the project site and observed the following work performed by American Bridge/Fluor Enterprises (AB/F) personnel at the locations noted below:

A). Field Splice W1/W2
B). Field Splice W4/W5

A). Field Splice W1/W2

The QAI observed QC/UT technician Tom Pasqualone perform Ultrasonic Testing (UT) of the R2 repairs on the longitudinal stiffener field splices identified as WN: 1W-2W-D-S4, S5, S6, S8 and S9. The testing was conducted by the QC technician utilizing the UT Procedure identified as SE-UT-D1.5-CT-100 Rev.4 and the required shear wave technique during the testing for weld soundness which was performed utilizing a G.E./Krautkramer USM 35 and a .63 x .75 rectangular transducer mounted on a 70 degree wedge. At the conclusion of the ultrasonic testing of the stiffeners identified as S4, S8 and S9 no rejectable discontinuities were noted by the QC technician and the stiffeners identified as S5 and S6 were rejected by QC.

The QAI also observed James Zhen ID-6001 perform the excavation of the area marked as UT rejects on the Complete Joint Penetration (CJP) groove welds identified as WN: 1W-2W-D-S2. At the conclusion of the excavations the QC technician Tom Pasqualone performed a Magnetic Particle Test (MPT) of the excavated area and no rejectable indications were noted. The application and evaluation of the MPT appeared to comply with the MPT procedure identified as SE-MT-CT-D1.5-101 Rev. 4. The repair welding was performed utilizing the Flux

Cored Arc Welding (FCAW-G) process as per the Welding Procedure Specification (WPS) identified as ABF-WPS-3001-3- Repair Rev. 0. The WPS was also used by the QC inspector as a reference to monitor and verify the Direct Current welding parameters which appeared to comply with the WPS. The welding was performed in the vertical position (3G) with the work positioned approximately in the vertical plane with the groove approximately vertical and the weld progression up. A verbal approval was issued by the Department to proceed with the excavation and welding.

B). Field Splice W4/W5

The QAI observed QC technician Steve McConnell perform the Ultrasonic Testing (UT) of the field splice identified as WN: 4W-5W-A, Segment A5 utilizing the procedure identified as SE-UT-D1.5-CT-100 Rev.4. The QC technician tested approximately 5280mm and five (5) rejectable indications were noted by the QC technician. The testing was performed utilizing a G.E./Krautkramer USM 35X during the examination with a .63 x .75 rectangle 2.25 megahertz transducer mounted a 70 degree wedge.

The QAI also observed the welding of two (2) repairs on the deck plate field splice identified as WN: 4W-5W-A, Segment A1 and the Y dimension was noted as 0mm to 135mm and 0mm to 195mm. The Shielded Metal Arc Welding (SMAW) was performed by Fred Kaddu ID-2188 utilizing the Welding Procedure Specification (WPS) identified as ABF-WPS-D15-1000 Repair Rev. 2. The QC inspector, Steve McConnell, monitored the welding and performed the inspection during the welding of the repairs and was observed verifying the DCEP welding parameters and were noted and recorded as 140 amps. The minimum and maximum surface temperatures were also verified by the QC inspector and were noted and recorded as 20 degrees Celsius preheat temperature and a maximum interpass temperature of 230 degrees Celsius.

QA Observation and Verification Summary

The QA inspector observed the QC activities and the welding of the field splices utilizing the WPS as noted above, which appeared to be posted at the weld station. The welding parameters and surface temperatures were verified by the QC inspector's and utilizing a Fluke 337 clamp meter for the electrical welding parameters and a Fluke 63 IR Thermometer for verifying the preheat and interpass temperatures. The ESAB consumables utilized for the SMAW and FCAW-G processes appeared to comply with the AWS Specification and AWS Classification. The QC inspection, testing and welding performed on this shift appeared to be in general compliance with the contract documents. At random intervals, the QAI verified the QC inspection, testing, welding parameters and the surface temperatures utilizing various inspection equipment and gages which included a Fluke 337 Clamp Meter and Tempilstik Temperature indicators.

The digital photographs on page 3 of this report illustrate the work observed during this scheduled shift.

WELDING INSPECTION REPORT

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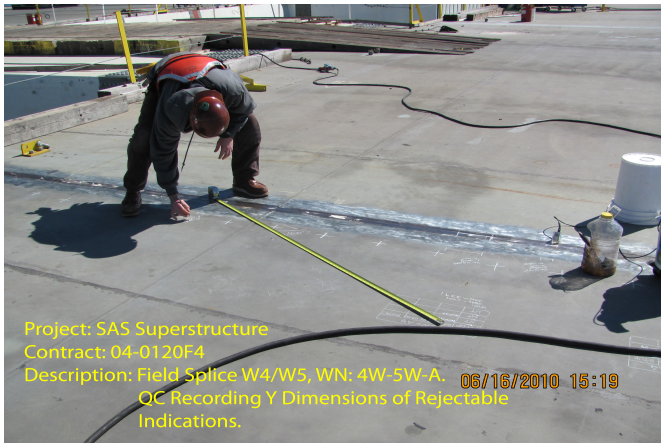

Summary of Conversations:

There were no pertinent conversations were discussed in regards to the project.

Comments

This report is for the purpose of determining conformance with the contract documents and is not for the purpose of making repair or fit for purpose recommendations. Should you require recommendations concerning repairs or remedial efforts please contact Mohammad Fatemi (916) 813-3677, who represents the Office of Structural Materials for your project.

Inspected By:	Reyes,Danny	Quality Assurance Inspector
Reviewed By:	Levell,Bill	QA Reviewer